PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements relating to Incandescent Gas Fires.

I, JOHN MULHOLLAND, of 1, The Esplanade, Whitley Bay, in the County of Northumberland, a British subject, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to incandescent gas fires of the kind having, immediately behind the fire back, against which are disposed the usual vertical incandescent elements, a chamber into which the gas supply is directed and wherein the mixture of gas and induced air is heated before passing to the burners or teats in front of the fire back whereon the incandescent elements rest, the pre-heating of said gas and air mixture resulting in more efficient combustion tending to increased heat radiation. In one previous construction, the gas is supplied by a nozzle disposed below the level of the burners into the lower end of a vertical tube which extends up behind the fire back and at the top opens into a narrow chamber extending the full width of the fire back immediately behind same, said chamber opening at its bottom into a flat box supporting the row of burners. The object of my invention is to provide an improved simple construction of gas fire of the kind above referred to.

A gas fire in accordance with my invention is characterised in that the gas supply pipe is directed upwards into a vertical induction pipe which is disposed in the bottom of an L-shaped pre-heating chamber, one portion of said chamber extending upwards above said induction pipe and lying immediately behind the fire back, and the other portion of said chamber extending on a level with said induction pipe to the front where it supports the burners or teats.

I will more fully describe my invention with reference to the accompanying drawings wherein Figure 1 is a front elevation and Figure 2 is a vertical section at right angles thereto of a fire in accordance with my invention having upright incandescent elements.

Referring to the said drawings, in the example therein illustrated, *a*, *a* are the burners or teats, *b*, *b* are upright fretted asbestos or like tubes resting thereon and backed by an upright fire clay or like slab *c* attached to the metal back *d* of the fire, all as usual. The burners *a* open out of a flat box *e* in the base of the fire extending horizontally the full length thereof. The box *e* forms the frontal extension of an L-shaped pre-heating chamber the vertical portion *f* of which is of the same width and extends upwards behind the metal back *d* of the fire. The gas supply pipe *g* is directed into a vertical induction pipe *h* passing through and supported by the bottom plate *j* of the preheating chamber and extending for a suitable distance up into said chamber the vertical portion *f* of which lies directly above said pipe. The nozzle of the gas supply pipe *g* is adjustable relatively of the inlet *k* of the induction pipe *h*. The induction pipe may be conical as shown, or may be cylindrical with a flared inlet, and it may be adjustable in the bottom plate *j* to vary the height to which it projects into the vertical portion *f* of the pre-heating chamber. Normally this height will be approximately that of the top of the box *c*. If desired, the pre-heating chamber may be provided with more than one induction pipe *h* and gas supply pipe *g*. The pre-heating chamber may be integral with the back *d*, or, as shown, it may be formed by a separate casing suitably attached thereto.

It will be seen that the gas from the pipe *g* and the air induced thereby through the induction pipe *h* enters into the pre-heating chamber *e*, *f* which,

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while the fire is burning, is heated from the incandescent elements *b* through the fire clay slab *c* and metal back *d* so that the gaseous mixture is heated before passing to the burners *a*. This pre-heating of the gaseous mixture results in an intensified flame producing increased heat which is radiated by the incandescent elements *b* and the fire clay slab *c*. Moreover the effect of the pre-heating chamber is to eliminate back-firing and the slight explosion which often occurs when the gas is ignited and turned off to light and extinguish the fire.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. An incandescent gas fire of the kind herein referred to characterised in that the gas supply pipe is directed upwards into a vertical induction pipe which is disposed in the bottom of an L-shaped pre-heating chamber, one portion of said chamber extending upwards above said induction pipe and lying immediately behind the fire back, and the other portion of said chamber extending on a level with said induction pipe to the front where it supports the burners or teats, substantially as and for the purposes herein described.

2. The improved incandescent gas fire constructed, arranged and adapted for use substantially as and for the purposes herein described with reference to the accompanying drawings.

Dated this 25th day of February, 1926.

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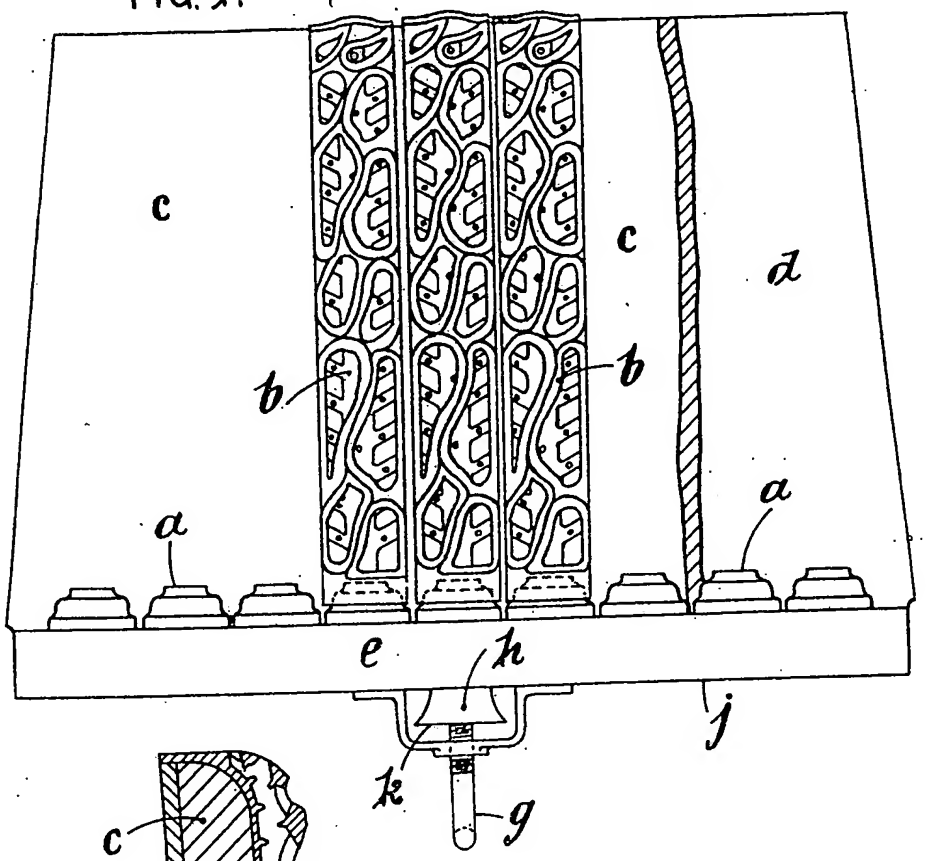
126-92.AC

253,043 COMPLETE SPECIFICATION 1 SHEET

FIG. 1. 126-92.BC



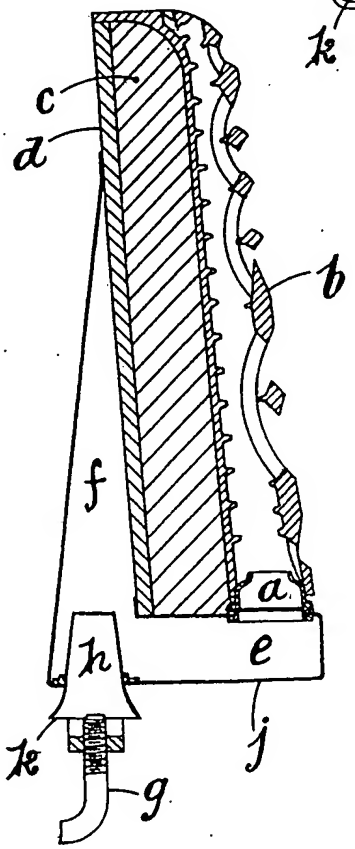


FIG. 2.

[This Drawing is a reproduction of the Original on a reduced scale.]